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STATUS OF FINANCIAL INCLUSION AMONG RURAL HOUSEHOLDS IN ANDHRA PRADESH

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1.1 Introduction: Background of the Study

The emerging trends in financial inclusion have gained growing attention among developing countries Policymakers and central bankers from around the world. The Emerging economies enhanced interest towards economic growth with specific interest on the factors that lead to higher savings and investments, which have been viewed as important determinants of economic growth (Anita Gardeva and Elisabeth Rhyne., 2011)[1].The present pattern for savings, and investment, has been developed with the objective to address the hypothetical and empirical issues and to steer the design of enhanced policies and improvisations of methodologies in practice. Although India has made improvement in financial inclusion in the past few years, but IMF Financial survey shows that "India lags behind with other emerging nations in financial inclusion by a significant margin" (Nair, 2012)[2]

1.2 Financial Development and Growth: Theory

Valpy FitzGerald (2006)[3] emphasized that the "long-term sustainable economic growth depends on the ability to raise the rates of accumulation of physical and human capital, to use the resulting productive assets more efficiently, and to ensure the access of the whole population to these assets". Therefore, the researcher might be asked what kind of financial & development theory might maximize economic growth?

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[1] Anita Gardeva & Elisabeth Rhyne, Opportunities and Obstacles to Financial Inclusion, Published by Center for Financial Inclusion, New York, 2011 http://centerforfinancialinclusionblog.files.wordpress.com/2011/07/opportunities-and- obstacles-to-financial-inclusion_110708_final.pdf

[2] Ramy Nair, India lags behind emerging nations in financial Inclusion, 2012 published by http://origin-www.livemint.com/Industry/ZLqb6dEHp9nav1OsubWJQL/India-lags-behind-emerging-nations-in-financial-inclusion.html,

[3] Valpy FitzGerald, Financial Development and Economic Growth: a Critical View, Background paper for *World Economic and Social Survey 2006*, Oxford University

Financial development and economic growth are interdependent correlation factors with strong relationship has occupied the minds of economists from Smith to Schumpeter. However, financial development and economic growth have recently become a central axiom of economic theory, strengthened by apparent support from empirical cross-country studies. The financial relationship between indicators of development and observed rates of growth, the channels, and even the direction of causality have remained unresolved in both theory and empirics.

1.3. An Unconventional Economic Theory

The unconventional economic theory is employed by Christel Koehler (2009)[4] towards financial inclusion strategies. The unconventional economic theory explaining in terms of financial exclusion in India is an important concern for excluded disadvantaged communities in which discrimination has been observed especially in access to finance, capital, resources, technology, and markets. The basic purpose is to use as far as possible neoclassical tools in the analysis of discrimination. The lack of financial products, is concentrated in a small number of deprived people from social group (SC, ST and Women) and sectoral (agricultural labourers, wage laborers, children, small and marginal farmers) areas excluded.

However, Prof. C.K. Prahalad predicted that the success of economic development of any country would be able to offer those "at the Bottom of the Pyramid" facilities such as access to quality of the products, finance, capital, resources, technology and services they needed to overcome poverty, according to an appropriate economic model, while creating new markets for companies. In the other words, said that giving them more breathing space in terms of economic opportunity, in terms of access to fiancé, capital, resources, technology, and market to overcome exclusion to inclusion which further reduces their vulnerability, increasing their autonomy and their ability to use services that provide opportunities to overcome poverty.

[4] Christel Koehler, Financial inclusion: a sustainable growth factor for Posts: Making business strategies efficient and ethical, 2009, France

1.4 Rural Indian Financial Inclusion Architecture

In the present situation all the banks continue to change direction from rural to urban in India, The number of rural bank branches has been reduced in size even as urban branches grow, and then the government pays lip-service to financial deepening and economic inclusion (Punnathara, 2007). In the last decade, while 50 per cent of all commercial bank branches were located in rural regions in June 2000, due to the declined shares up to 40 per cent in March 2009, then the impact was implying that the rural branch expansion has been far behind the growth of the urban centres.

The gaps in the viability of banking services in rural areas have been emphasized. In the rural area only 18.4 per cent of the population has savings/deposit accounts and even a lowered percentage of 17.2 per cent of the rural households have the loan accounts through banking network of scheduled commercial bank. The cooperatives are the most suited organization to serve rural India, to cover the deposit and credit products. The impact of decline in productivity of rural branches of commercial banks, weakness of cooperative and RRBs credit structure witnessed since early 1990, have further accentuated the problem of inaccessibility to banking services of a large part of the rural population. According to RBI (2005) report the number of loan accounts of small borrowers with credit lint range of less than Rs. 25,000/ has decreased from 5.88 crore in 1991 to 3.69 crore in 2003 denoting the preference of the bankers towards large size loans(RBI 2005).

1.5 Rural Financial Inclusion/Exclusion Paradigm

The majority of the rural population was far from the credit market due to high interest rates and the lack of convenient access to credit. Therefore, the rural households need credit for investing in agriculture and consumption purpose. The majority of households are small and segregated from main revenue villages and town, these rural households naturally tend to rely on credit for other consumption needs like education, food, housing, household functions, etc. as the existing financial institutions not able to provide them with credit at lower rates and at reasonable terms. So the traditional money-lender has the opportunities to prevent them from formal finance institutions and trap them in an easy way. Finally, it leads to financial exclusion and become the cycle of the excluded population.

1.6 Financial Needs of the Poor

IFAD report (2004), indicated that the financial service needs of the poor are not complex, but their satisfaction can have vey far-reaching results. Most of the world's poor people lack access to basic financial services that would help them manage their assets and generate income. If they have access, available and affordable financial services bring new economic options, self-confidence, and empowerment. For example, Micro-credit and microenterprises have drawn many women into commercial economic activities for the first time, enabling them to take advantage of new opportunities and develop new roles as cash income earners and economically influential members of the community. They have increased their income, productivity, and decision-making power, which have, in turn, allowed them to play a dynamic role in social change (Lennart Båge, 2004)[5].

The key strategy is to see financial inclusion not just as a social priority but as a large demand for even basic financial services in underserved segments of the population. Therefore, it is needs as one that the private financial institutions should be taken up in urban and rural areas. The restraint lies in achieving scale efficiencies that make it worthwhile for the private sector to reach these markets. (Eswar Prasad., 2010)[6]

1.7 Statement of the Research Problem

A major cornerstone of inclusive growth is to ensure that the benefits and fruits of growth reach the bottom of the pyramid population especially, vulnerable social and sectoral groups. Inclusive growth in India hence remains a mirage, and will avoid us, save a radical transformation of the entire tools of how the Indian State functions in the grassroots.

India has sufficient schemes, rules, and directives aimed at expanding banking coverage and ensuring service to the unbanked population particularly social groups. There is no end of schemes, plans, and regulations aimed at providing financial services and

[5] Lennart Båge , Responding to the diverse financial needs of the poor, 2004, IFAD. http://www.ifad.org/events/op/2004/jordan.htm

[6] Eswar s. Prasad, Financial Sector Regulation and Reforms in Emerging Markets: An Overview, Brookings Publication, 2010, http://www.brookings.edu/~/media/press/books/2011/4/financialmarketregulationandreformsinemergingmarkets/financialmarketregulationandreformsinemergingmarkets_%20chapter.pdf

products to the poor people. For the unbanked it is a challenge to gain access to banks and the services they offer. The unending stream of new initiatives and orders in this regard clearly demonstrates that all these have failed to achieve their basic objective of financial inclusion. There is evidence in the world-wide study to index Financial Inclusion to assess the extent of penetration of banking services to the vulnerable social groups. The Index Financial Inclusion report showed that India ranks a lowly at 50, out of the 100 countries covered in the survey.

The review studies say "Why the majority of financial inclusion business strategies have not reached to the social vulnerable groups and sectoral groups"? The main cause is supply-side agenda fails to access and make available affordable products and services that acknowledge the lack of local demand in poor communities (The Guardian, 2012)[7]. However, to accept the fact that bottom of economic problem today is actually lack of effective affordable local business model and global demand. In that situation, we need policy changes with allocation of resources, but the existing conditions, in spite of huge unmet needs (especially in the poorest communities), would further expose to the poor, the fundamental and growing weaknesses of capitalism and markets.

1.8 Significance of the Study

The literature reviews revealed that there is a gap in the literature and there are no so much studies found on status of financial inclusion at rural households in Andhra Pradesh in the literature. The literature reviews presented in the earlier studies are very few at micro level. The majority of the studies are only at macro level but not at the micro level with empirical studies. Those studies focused on business strategies and technology aspects. But there are no any studies on status of financial inclusion at rural households in Andhra Pradesh up to now. In this regard the present study assures importance and enumerating the need of the status of financial inclusion at rural households in Andhra Pradesh. The main thrust of the study is to examine the status of financial inclusion in Andhra Pradesh, and the need to consider the economic strategies to achieve overall goal.

[7] The Guardian, Let's not kid ourselves that Financial Inclusion will help the poor? Poverty Matters Bloc, 10 May,2012
http://www.guardian.co.uk/global-development/poverty-matters/2012/may/08/financial-inclusion-poor-microfinance

1.9 Objectives of the Research Study

- To review the economic growth theories, Indian rural finance scene and empirical studies on Financial inclusion
- To study the government initiatives, policy issues and challenges, business strategies, credit deliver channels for financial inclusion
- The study the index of financial inclusion for Andhra Pradesh
- To estimate the Index of Financial Inclusion at Mandal/Block level and household level
- To suggest suitable Economic Strategies for overall inclusive growth.

1.10 Methodology

The researcher has adopted RBI methodology to measure the Index of financial Inclusion. The Reserve Bank of India has conducted study on ***"Financial Inclusion in India: A case-study of West Bengal"*** Sadhan Kumar Chattopadhyay, published by RBI, 2011,

Following the RBI methodology, the study has taken into account a mixed approach; used to measure three dimension of Financial Inclusion based on Banking Statistic reports, and households have been identified as the basic unit for measurement of financial inclusion.

1. **Sampling Design:** Multistage sampling was employed to select the sample households. Sampling has been done in four stages and each stage is described in a detailed manner. The study area covers twelve villages from six mandals within three district of Andhra Pradesh in order to understand the nature and extent of financial inclusion in the State. Besides, the study has focused, inter alia on socio-economic indicators like occupation, literacy, landholding pattern, annual income, and financial inclusion dimensions of people's opinion about banking services.

The four stages sampling methods are:

First Stage: In the first stage the researcher preferred using a purposive sampling technique to select the Andhra Pradesh as guarantee representativeness. In this stage the researcher will measure the Index of Financial Inclusion, districts wise on secondary data of banking

statistics in Andhra Pradesh. The results will provide Index of Financial Inclusion (IFI) ranks such as forward is the first rank and backed is the least rank.

Second Stage: The units selected at this stage are usually called Primary Sampling Units (PSUs). A self-weighted stratified systematic sampling technique are recommended to select PSU based Index of Financial Inclusion results.

Third stage: The third stage selection consists of blocks or Mandals, and then selecting six blocks or Mandals of this third-stage (TSs) from each selected PSU. Again, self-weighted stratified systematic sampling techniques are recommended in the selection (Mandals/Blocks) based on Index of Financial Inclusion results.

Fourth stage: The Index of Financial Inclusion rank will be decided to select the Ultimate Area (12 Villages) which is the backward rank of IFI in the mandal or block. The control variables have special characteristics to be used in the selection of the sample households. Those special characteristics such as social groups (SCs, STs, BC and Minorities) and sectoral groups (Agriculture labourers, wage laboures, Small & marginal farmers, women, children and disability persons) and BPL households are given to the priority. Finally selecting the household with simple random techniques with special characteristics were used at village level.

Regarding household usage of financial services, an important consideration is whether the identity of the survey respondent affects the accuracy of the information received. The most comprehensive approach to measuring household usage is a full enumeration, in which each member of the household reports on personal use of financial services and individual responses are then aggregated to the household level. The researcher uses an informant to provide information on the usage of financial services by all members of the household, typically either the head of household or a randomly selected adult. In another way of research, therefore, test whether the household financial usage information provided by the household head or randomly selected informant is as accurate as the provided by a full enumeration. Because a full enumeration is more time consuming then reliance on an informant, these results will provide an indication of the services for which informants can provide reliable, cost-effective information.

Through the four stages sampling techniques the researcher will select from each village 65 households, it means from 12 villages X 65 =780 HH will be selected. It can be seen below:

Table: 1.4 Selected Districts, Mandals, and Villages

Name of the District	Name of the Mandal	Name of the Village
Mahabubnagar	1. Atchempet	1. Akkavaram 2. Bommenapalle
	2. Buthpoor	1.Amistapur 2. Hasnapur
Srikakulam	1.L.N Peta	1.Padala 2. Garala Padu
	1. Vajrapu Kotturu	1.Aakkupalli 2.Amalapadu
Vijayanagarm	1. Gummalakshmipuram	1.Balijapate 2.Perlan
	2.Makkuva	1. Kona 2. Chemudu

Note: 3 districts * 2 Mandals = 6, 6 Mandals * 2 villages =12, 65 HH * 12 villages=780 HH

2. Database and Analysis:

This study is exclusively based on primary and secondary data. At the primary level household data is collected from three districts of Andhra Pradesh. The Banking Statistical Returns (BSR) statements published by RBI at the national, at the state and district level, Lead Banks reports, and NABARD reports are the basis for the analysis. Secondary data was collected from the National Sample Survey organisation(NSSO) reports, Centre for Monitoring Indian Economy(CMIE) reports, and mainly from three districts lead banks, district credit reports and statistical reports, Census of India, Economic survey, Andhra Pradesh Economic Statistical survey, RBI bulletin, RBI occasional papers, and world bank working papers & reports, IBS reports, OECD reports, World Economic Forum reports, UNDP reports, AFFI reports, IFC & IBS reports, RBI Annual Reports, private companies white papers, international journal of articles, books, Economic Review, Indian Economic Journal, Financial Express, Internet documents and web reports etc.,

3. **Techniques for Analysis:** The primary information was collected from 12 villages in three districts household respondents by using pre-structured scheduled and by conducting

focus groups discussions and interviews. The data analysis was done using statistical tools like percentages, averages, and measures of the Index of Financial Inclusion (IFI) with three dimensions. In the final section regression analysis was adopted to study the impact of selected independent variables on financial inclusion.

a. Measuring Index of Financial Inclusion

There are two categories of measures; in the first category, the researcher will calculate the Index of Financial Inclusion (IFI) for 23 districts of Andhra Pradesh. And in the second category he will calculate the mandal/block wise Index of Financial Inclusion (IFI) which is the main focus of my research study. The proposed IFI takes values between **0** and **1**, zero indicating complete financial exclusion and 1 indicating complete financial inclusion.

The quantitative analysis will measure the Index of Financial Inclusion (IFI) computed by first calculating a dimension index, for each dimension of financial inclusion. There are three basic dimensions of an inclusive financial system – ***Banking Penetration*** (BP), ***Availability of the Banking Services*** (BS), and ***Usage of the Banking system*** (BU). The main reasons for selecting these dimensions are useful to compare the levels of financial inclusion across the micro economic levels and across states and districts which can be used to monitor the progress of policy. In this case IFI is computed by first calculating a dimension index for each dimension financial inclusion.

$$\boldsymbol{d_i = \frac{A_i - m_i}{M_i - m_i}} \qquad \textbf{(1)}$$

Where,

A_i= Actual value of dimension **i**.

m_i=minimum value dimension **i**.

M_i= maximum value dimension **i**.

Formula (1) ensures that $0 \leq d_i \leq 1$. Higher the value of d_i, higher the state's achievement in dimension i. if n dimension of financial inclusion are considered, then a state **i** will be represented by a point $D_i = (D_1, D_2 \ldots\ldots\ldots\ldots D_n)$ on the **n**-dimensional Cartesian space.

$$\boldsymbol{IFI_i = 1 - \frac{\sqrt{(1-d_1)^2 + (1-d_n)^2}}{\sqrt{n}}} \qquad \textbf{(2)}$$

In formula (2), the numerator of the second component is the Euclidian distance of $\boldsymbol{D_1}$ from the ideal point **I**, normalizing it by $\sqrt{\boldsymbol{n}}$ and subtracting from **1** gives the inverse normalized distance.

The normalization is done in order to make the value lie between **0** and **1** inverse distance is considered so that higher value corresponds to higher financial inclusion

Thus, considering three dimensions such as penetration, availability, and usage to measure the IFI. It can represent a state **i** by point ($\boldsymbol{p_i}$, $\boldsymbol{a_i}$, $\boldsymbol{u_i}$) in three dimensional Cartesian space, such that $\boldsymbol{0 \leq p_i}$, $\boldsymbol{a_i}$, $\boldsymbol{u_i} \leq \mathbf{1}$, where $\boldsymbol{p_i}$; for the $\boldsymbol{a_i}$; and $\boldsymbol{u_i}$; denote the dimension indexes state **i** computed using formula (1). In the three dimensional Cartesian space , the point (**0,0,0**) will indicate the worst situation (complete financial exclusion) and the point (**1,1,1**) will indicate the best or ideal situation (complete financial inclusion). The IFI for the state **i** is measured by the normalized inverse Euclidean distance of the point ($\boldsymbol{p_i}$, $\boldsymbol{a_i}$, $\boldsymbol{u_i}$) from the ideal point (**1,1,1**). Algebraically.

$$\boldsymbol{IFI_i = 1 - \frac{\sqrt{(1-p_i)^2 + (1-a_i)^2 + (1-u_i)^2}}{\sqrt{n}}} \qquad \textbf{(3)}$$

4. Hypothesis Testing:

Using data on all three dimensions (penetration, availability, and usage) for IFI values have been computed. The Hypothesis formulation is based on the literature review and preview studies. The researcher will predict quantitative study model

Table: 1.2 ***Hypotheses***

H-value	Interpretation
(H1) 0.5 < IFI ≤ 1	***High level financial inclusion***
(H2) 0.3 ≤ IFI < 0.5	***Medium level financial inclusion***
(H3) 0 ≤ IFI < 0.3	***Low level financial inclusion***

The proposed IFI takes values between 0 and 1, zero indicating complete financial exclusion and 1 indicating complete financial inclusion.

b. Regression model specification: Financial inclusion is determined by multiple factors like infrastructural development, economic development, type of financial products, financial literacy etc. Financial inclusion can be measured both from saving as well as credit aspects of financial inclusion. However, the present study attempts to measure the financial inclusion from credit widening and credit deepening aspects of financial inclusion.

There are four independent variables in the model. The selected independent variables are being taken based upon the various literatures on financial inclusion. Number of credit accounts and amount of credit/loan disbursed per 1000 adult populations has been taken as two dependent variables in the model. On the other hand level of economic development, financial literacy, branch density, percentage of credit linked SHG households are taken as independent variables. Per capita income, literacy rate are proxy variables of level of development and financial literacy respectively.

Regression Equations:

Model: $\mathbf{C_w = \alpha 1+\alpha 2x2+\alpha 3x3+\alpha 4x4+\alpha 5x5+\mu 1.....(1)}$

$\mathbf{C_d = \beta 1+\beta 2x2+\beta 3x3+\beta 4x4+\beta 5x5+\mu 2.....(2)}$

Where X_2=Per capita income

X_3=Primary literacy

X_4=Branch density

X_5=No. of SHG groups having access to credit

$\alpha 1$, $\beta 1$ are intercepts.

$\alpha 2$, $\alpha 3$, $\alpha 4$, $\alpha 5$, $\beta 2$, $\beta 3$, $\beta 4$, $\beta 5$ coefficients.

$\mu 1$ and $\mu 2$ are disturbances terms

Table: 1.3 variables to measure the Financial Inclusion

S.No	Variables	Notation Used
1	***No. Of credit accounts per 1000 adults***	$\mathbf{C_W}$
2	***Amount of loan disbursed per thousand adults***	$\mathbf{C_d}$
3	Per capita income	$\mathbf{X_2}$
4	No. Of per cons having primary education per 1000 adult population	$\mathbf{X_3}$
5	Population per branch (Branch density)	$\mathbf{X_4}$
6	No. Of SHG having access to credit through Self help group bank linkage programme	$\mathbf{X_5}$

1.11 Scope of the Study

The scope of this research will be bridge the gap of existing product strategies, technological model and credit delivery strategies for financial inclusion. This research may facilitate Self-Service technology solutions which are essential to address the scalability and sustainability challenges facing financial inclusion. The research will provide main key learning's that policy makers, financial institutions, and technology providers can use to establish innovative economic strategies to fulfill the demand. Therefore, Innovative economic strategies will provide an economic framework that explains and helps support growth, with collaboration of all stakeholders to deliver Financial Inclusion objectives.

1.12 Limitations

Out of 23 districts of Andhra Pradesh, the study has covered three districts only, which is a representative sample. The study is limited to the commercial scheduled banks and RRBs with respect to their financial inclusive growth performance. The main limitation is to compare data of banks in the country; the number of observations is too small which is a major constraint to generalize the observations in the study. Some of the difficulties are lack of unpublished information, particularly accounts of the banking customers, access to finance and utilization of banks services. Thus confined to a specific area this study does not and cannot represent views and ideas of all the banks of the country.

1.13 Chapterisation:

The study consists of seven chapters. These are:

1. The first chapter discusses background, economic theories, financial theory, and normative theory of social exclusion and statement of the problem, objectives, research methods, and significances of the study, scope of the study and limitations of the study.

2. The second chapter contains literature review on earlier studies of innovation economic theories, access to finance theories and review the empirical studies on financial inclusion and exclusion.

3. Third chapter explains an overview of the financial inclusive growth policies, schemes implementing by the Government of India (GOI) and the Reserve Bank of India.
4. The Fourth chapter explains the profile of the study area with focus on demographic, macro & micro situation, banking scenario, poverty status and socio-economic political situation with status of financial inclusion in Andhra Pradesh with concern to three districts.

5. The Fifth chapter analyse the results and discussions on the status of financial inclusion for demand side and supply side based on the data derived from the survey.

6. Chapter sixth explains the Economic strategies for Financial Inclusive Growth.

7. Chapter seven presents the summary of the study, findings, conclusion, and policy suggestion of the study.

2. DATA ANALYSIS AND EMPRICAL RESULTS

The most important pattern is equally access to finance by all segments of the society, i.e. inclusive nature of financial system. Some important dimensions of financial inclusion are that all sections of the society should have timely and adequate availability of financial services to ensure access at affordable cost**.** The Index of Financial Inclusion is to measure and know the level of financial inclusion in the present condition. This index is based on three basic dimensions of an inclusive financial system (a) banking penetration, (b) availability of the banking services and (b) usage of the banking system.

a) **Banking penetration:** Banking penetration is definitely the most critical parameter for measuring the depth financial inclusion and is measured as a ratio of bank accounts to the total population.

b) **Availability of Banking Services:** The second parameter, availability of banking services provides an indication to the number of bank outlets available per 1000 people to deliver financial services. The bank outlets may include the brick and mortar branches, ATMs, business correspondents, etc.

c) **Usage of Banking Services:** The third parameter seeks to determine the usage of banking services going beyond mere opening of accounts. Therefore, this is evaluated on the basis of outstanding deposits and credits.

A. Supply Side Analysis Results: Major Findings

1. Measuring Index of Financial Inclusion for Andhra Pradesh

- **High Level Financial Inclusion: The First Hypothesis (**H1 if $0.5 < IFI \leq 1$ high level), The Index of Financial Inclusion results showed that there are only three districts, which have high level of IFI. These are Hyderabad with the IFI value of 0.77. Hyderabad has nearer to complete financial inclusion, Krishna district with value of 0.65 is in second rank, and Ranga Reddy with value of IFI is 0.59 with third rank of Index of Financial Inclusion.

- **Medium level of Financial Inclusion:** In the second hypothesis H_2 if $0.3 \leq IFI < 0.5$ the medium level of financial inclusion, there were ten districts. West Godavari district is in the fourth rank of IFI with value of 0.55, Guntur district has fifth rank with IFI value 0.52, East Godavari is the sixth rank with IFI value of 0.50, Karimnagar is seventh rank with value of 0.43, Nellore is eight rank with value of 0.42, Khamman is the ninth rank with value of 0.41, Chittor is the tenth rank with value of 0.4 and Visakhapatnam is the eleventh rank with value of 0.37, Medak is the twelveth rank with value of 0.33, Kadpa is the 13^{th} rank with value of 0.31 these are all under medium financial inclusion.
- **Low level Financial Inclusion:** The third Hypothesis is $0 \leq IFI < 0.3$ the low level of financial inclusion values. Mainly these are the districts Prakasham is the fourteenth rank with IFI value of 0.29, Warangal is the fifteenth rank with IFI value of 0.27, Nizambad sixteenth rank with IFI value of 0.25, Adilabad is the seventeenth rank with IFI value of 0.25, Nalgonda eighteenth rank with IFI value of 0.24, Kurnool is the nineteenth rank with IFI value of 0.23, Anathapur is the twentieth rank with IFI value of 0.21, Srikakulam twenty one rank with IFI value of 0.19, Vijayanagaram twenty two rank with IFI value of 0.18, Mhabubnagar twenty three rank with IFI value of 0.16, all these three district had low financial inclusion.

- The Index of Financial Inclusion results showed that the least three districts such as Srikakulam, Vijayanagarm and Mahbubnagar districts had very low financial inclusion and the researcher considered for the research study of those three districts.

2. **Measuring Mandal wise Index of Financial Inclusion for Mahbubnagar district:**

    - **Low Level Index of Financial Inclusion:** Out of 64 mandals in Mahabubnagar district, 54 mandals have the low level of IFI ranks between 0 to 0.3 ($0 \leq IFI < 0.3$). These mandals are Bomeraspate is the eleventh rank with IFI value of 0.29, Kosgi is the 12^{th} rank with IFI value of 0.28, Doulatbad is the thirteenth rank with IFI value of 0.27, Damgodda is the fourteenth rank with IFI value of 0.26, Maddur is the fifteenth rank with value of 0.25, Kolkonda is the sixteenth rank with the value of 0.24, the other

mandals have a low IFI values, hovering between 0.0 and 0.2. Buthpoor is the sixty three rank with value of 0.13 and Atchempet is the least sixty four rank with IFI value of 0.1 are the very low level of financial inclusion it means that IFI value is just above '0'. Those mandals are very low in banking penetration, banking services, and using banking credit towards financial inclusion. The researcher found major observations in Mahbubnagar district that the majority of the households are going to migrate for the most of the days; they were only 60 to 90 days available in their homes that also if they have any agricultural cultivation.

3. Measuring Mandal wise Financial Inclusion Index for Srikakulam district:

- **Low Level Index of Financial Inclusion:** The empirical hypothesis results showed that out of 37 mandals, 27 mandals were in the low level of Financial Inclusion Index. The hypothesis is $0 \leq$ IFI <0.3 – low financial inclusion, these are the least mandals such as Hirmadalam with IFI value of 0.14, Vajrapu Kotturu with IFI value of 0.12 and L.n Pata Value of IFI 0.1, these mandals are the most back ward in financial inclusion. The researcher found major observations in Srikakulam district that the majority villages are segregated from main villages and it is cost affective to banking infrastructure development.

3. **Measuring Mandal wise Index of Financial Inclusion for Vijayanagarm district**

- **Low Level Index of Financial Inclusion:** Out of 34 mandals, 22 mandal have the least IFI ranks. But among the least of IFIs values Komarade is in the thirty two rank with IFI value of 0.13 , Gummalaximipuram is the thirty three rank with IFI value of 0.12, Makkuva is the thirty four rank with IFI value of 0.1. These mandals are the most back ward in financial inclusion.

2. Socio-Economic Conditions of Selected Households

1. **Distribution of Households by Age Composition: Overall Scenario of three districts**

- Out of 780 sample Households, the majority 31.02 per cent of the sample Households age was distributed between 20 to 30 years old, while the least 4.48 per cent of the

sample Households, age was between 50 to 60 years old and 19.48 per cent of the Households were distributed among age group between 40 to 50 years age old. Whereas in 5.52 per cent of the Households, age was between 15 to 20 years, in the present study area. The survey results revealed that in the majority of the Households, age was very productive age.

2. **Distribution of Gender Composition:** Population enumeration by gender composition is one of the basic demographic characteristics and provides meaningful demographic analysis. The overall scenario of three districts showed that the majority 51.28 per cent of the Households were male, while 48.72 per cent of the Households were female. However, the gender composition men are more than the women in the study areas.
3. **Distribution of the Heads of Households by Literacy Level:** The overall literacy level scenario of three districts showed that the majority 45.76 per cent of the Households were illiterates among three districts, while 8.20 per cent of the Households were at graduate level and 26.92 per cent of the Households were at primary standard level, whereas 19.10 per cent of the Households were at secondary level of education in three districts of Andhra Pradesh.

4. **Distributions of Households by Community:** The majority 35.64 per cent of the Households belong to backward caste, while least 5. 38 per cent of the Households belong to other caste and 32.69 per cent of the Households belong to Scheduled caste whereas 26.28 per cent of the Households belong to Scheduled Tribes in the three districts of research study.

5. **Distributions of Households by Annual Income**: In the overall scenario of households annual income, the majority 40.25 per cent of the sample Households annual income is between Rs 15,000 to 25,000 only, while the least 2.43 per cent of the Households annual income is Rs. 55,000 & above and 32.56 per cent between Rs. 25.000 to 35,000, 13.07 per cent of their annual income is between Rs. 35,00 to 45,000, whereas 7.59 per cent of their annual income is less than Rs 10,000 and only 4.10 per cent of the Households were able to earn their annual income between Rs 45.000 to 55,000 in all three districts of Andhra Pradesh.

6. **Distributions of Households by Land Holding Pattern**: Out of 780 sample Households, over 39 per cent of the Households in the three districts surveyed are agricultural labourers. The result has revealed that 18.71 per cent households occupy land holdings in the size of land 1 to 2 acre on an average, while the least 2.05 per cent in the size between 5 and above acres. But 16.18 per cent of the Households have less than the one acre in three district and 18.71 per cent of the households have the lease land in the size of 1 to 2 acres, 11.28 per cent in size the between 2 to 3 acres, 3.84 per cent of the Households have the land holding in the size between 3 to 4 acres.

3. Measuring Demand Side financial Inclusion: Overall Scenario

A. Access to Finance

1. **Do you have Bank Account:** The majority 63.58 per cent of the sample Households don't have the bank account among three district of Andhra Pradesh, while only 36.41 per cent of the sample households had the bank accounts overall.

2. **If you have, what type of Account:** The majority 45.12 per cent of the household have the account in only SHGs group, while only 1.92 per cent of the sample household had the current account and then 33.58 per cent of the sample household had the no-frill accounts, 7.92 per cent have savings account and 5.76 per cent of the household had low-cost account, whereas 5.38 per cent joint account

3. Do you know how to use ATM Services: Out of 780 sample respondents the majorities 87.30 per cent of the samples respondents don't know how to use the ATM services, while only 12.69 per cent of the sample respondents know how to use the ATM among the sample respondents in three district of Andhra Pradesh?

4. Where do you have account: The majority 55.89 per cent of the sample Households have their account only in SHG/MFI's while least 6.66 per cent in BCs centres and 16.02 per cent of the sample Households have account in post offices, 12.17 per cent have in commercial banks whereas 9.23 per cent of the sample Households have in cooperative societies.

5. Do you have Individual or group or joint account: The majority 67.82 per cent of the sample Households have SHG Group accounts, while only 4.23 per cent have joint account

and 19.61 per cent of the Households have NREGP account where as 11.53 per cent of the sample Households have individual account.

6. Do you have ATM: The majority 78.84 per cent of the sample Households' do not have ATMs while only 21.15 per cent of the sample Households have ATMs.

B. Deposits and Withdrawals

7. How many times your visiting bank in a month: The majority 31.02 per cent of the Households are accessing every two months, while 10.38 per cent accessing every four or more than four months and 25.64 per cent of the Households are accessing once in a month, 21.53 per cent accessing once in every three months whereas only 11.41 per cent of the sample Households are accessing once in a three weeks.

8. Frequency of deposits and withdrawals by account holders: The majority 33.20 per cent of the sample Households do deposits and withdrawals once in every two months, while 1.28 per cent are able to do deposits or withdrawals once in a week and 21.92 per cent of the sample Households have access to frequency of deposits and withdrawals once in every six months only and 13.84 per cent once in 5 weeks whereas 2.05 per cent of the sample Households have access to make frequency of deposits and withdrawals by account holders once in two weeks in a month.

9. What type of services getting from bank/ BC: The majority 51.79 per cent of the sample Households are getting services with SHG linkage from the BC/BF centers, while only 7.05 per cent getting agri loan services and 17.82 per cent of the sample Households are getting term loan services, 10.89 per cent withdraw services and 9.48 per cent savings facilities, 7.05 per cent get agri loan services from the BC/BF centers.

10. Level of awareness on Internet Banking: The majority 85.7 per cent of the sample Households do not know the internet banking, while only 1.53 per cent had awareness on internet banking and 9.87 per cent have poorly awareness, whereas 0.51 per cent of the sample Households are fairly aware of internet banking in three districts of Andhra Pradesh.

11. **Level of awareness on Mobile Banking:** The majority 78.07 per cent of the sample Households does not know the mobile banking and the level of awareness is zero level, while only 2.05 per cent had the very awareness and 15.76 per cent have poorly awareness whereas 4.10 per cent of the sample Households have fairly awareness on mobile banking in three districts of Andhra Pradesh.

12. **Awareness on online banking:** The majority 53.84 per cent does not have any awareness on online banking, while only 5.76 per cent had very awareness and 27.94 per cent have poorly aware whereas 12.94 per cent fairly awareness in three districts. However, the majority of the sample Households did not have awareness on online banking services.

C. Access to Insurance

13. **Percentage of household have types of insurance:** The majority 65.89 per cent of the sample Households did not have any insurance in the three districts of Andhra Pradesh, while only 2.94 per cent have livestock insurance and 19.87 per cent have life insurance, 7.69 per cent have health insurance whereas 3.58 per cent of the sample Households has accidental insurance in three districts.

4. **Model Specifications with Regression Results**

Regression Results

Dependent Variables	**No of credit account per 1000 Adult population**	**Amount of loan disbursed per 1000 adult population**
Per capita income (X2)	.0023124 (1.01)	.0000985 (2.08)**
No. Of persons having primary education per 1000 adult population (X3)	.3470009 (1.25)	.0020767 (0.36)
Population per branch (Branch density) (X4)	-.0018425 (-0.31)	-.0000733 (-0.59)
No. Of SHG having access to credit through Self help group bank linkage programme (X5)	.0004133 (2.89)*	6.90e-06 (2.31)**
Intercepts	.5343454 (0.00)	.7809542 (0.23)
R2	0.6775	0.7838

Note: Significance at *1 per cent, ** 5 per cent

Credit Widening: Out of the selected independent variables shown the empirical results of regression equation have been mentioned in the methodology. As shown in the table, the R^2 for equation (1) is 67.75%. It can be observed that there exists a positive relationship between Credit Widening (C_w) with all the independent variables except for variable x_4.This clearly describes that higher economic development, higher financial literacy and an effective SHG bank linkage programme facilitates higher financial inclusion across the areas. The inverse relationship between C_w and X_4 (Population per branch) describes larger expansion of branches lead to larger financial inclusion.

3. **Proposed Innovative Economic Strategies:**

Economic Strategies will take the lead in creating such a roadmap for not only financial inclusion but also sustainable human development. The road map focus on financial inclusive growth, keeping in mind the unique needs of Indian perspective and its challenges of demography, disparity, and development. Access to financial products and insurances products and services is not only pro-growth but also pro-poor, reducing income inequalities, poverty, and improving welfare. There are practical evidences that millions of microfinance clients demonstrated that poor people can seize opportunities provided by appropriate financial services efficiently. These are the proposed Economic Models for Financial Inclusion:

1) **"Your Bank in Your Pocket: Affordable Financial Services for All"**
2) **"Financial Inclusion @ Birth for the Future Generation"**
3) **"T-Banking for the billions of the poor people"**
4) **"The Bottom of the Pyramid Business Canvas Model"**
5) **"Digital village Banking model at the Grassroots level"**

4. Conclusion: This research study showed that while assessing the status of financial inclusion, it was found that one third the households in three districts are still marginalized with limited or no access to basic financial services including that of microfinance and insurance. While existing initiatives in measuring financial inclusion are estimated it is found that there is a need for greater focus on the micro and distributional dimensions of financial resources. The analysis results indicated significant regional variances in banking outreach across districts of Andhra Pradesh, as also in terms of their income characteristics. More

importantly, the regressions indicate an important role of SHGs, financial literacy and infrastructure in exploring banking outreach

Social exclusion of low income families such as SCs, STs, and OBCs results in illiteracy, inhibition, pattern of occupation and poor physical access. It also limits awareness, ability to overcome prejudice about their bank-worthiness and enhances the transaction costs incurred by these families for using the financial services available in these districts of Andhra Pradesh. The small value of accounts and transactions expected by the banking system from financially excluded families results in high cost of operations and limits the incentive to serve them. The lack of understanding of products and services appropriate to the needs of low income families results in static approaches like the no frills account where it has become apparent that mere availability is not the issue. But those business strategies suitable for small value accounts and doorstep service delivery results in the slow adoption of mechanisms for reaching financially excluded villages to include in the main stream of development.

The analysis also suggests a role for improving SHGs and BCs regulations. More often than not, capacity building, awareness attainment, and infrastructure development draw significant attention, owing to their visible impact on banking outreach. However, banking regulations can also hinder banking outreach.

The urgent attention are timely access to affordable financial services including credit, savings, insurance, pension and money transfer, responsible behaviour of the service providers, electronic modes of money handling, livelihood and enterprise creation, and a sound regulatory mechanism that oversees all the above. These all requires a complementary and supportive interplay of multiple institutions, channels, models, and experiments.

While this measure undoubtedly puts on some pressure to give the activity impetus and appropriate business strategies are still evolving and various delivery mechanisms are being experimented with. Financial literacy and level of awareness continue to remain an issue in these three districts and the ICT Based BC Model is also taking time to stabilize due to lack of financial awareness. Therefore, India need an innovative economic strategies that should coordination of all the stakeholders like sectoral regulators, banks, governments, civil

societies, NGOs, etc. to achieve the objective of financial inclusion. But the question remains whether the banks see business potential in the delivery of financially inclusive services or whether it is just another regulatory burden for them to bear?

7.7 Policy Suggestions

- To promote Policy on to improve credit flow to rural areas
- To explore further improve efficiency of SHGs and BCs activities
- To examine the banks to conform to the priority sector lending target
- To explore on public policy may have to be geared up for increase rural connectivity
- To examine the Indian banking reforms must focus on suitable financial products & services with affordable, accessible and available
- To make policy on financial literacy, capacity building and awareness financial products and services
- To Promote policy on innovative economic strategies for greater use of technology to propagate financial inclusion

7.8 Further Research:

Based on the findings of this study the literature the followings possible directions of future research are suggested. There is demand for the research in other researches can utilize this topic as follows:

1. As the present study focused only status of financial inclusion among rural households in three districts. But there is scope for doing research on BCs evaluation and performance
2. There is demand for saving behavior of households in rural and urban areas
3. Optimum utilization of technology for business models of financial inclusion in a more market drive inquisition.
4. Researchers can apply a more informatory method of data accumulation while looking into aspects such as the demand and the supply sides of the topic. In tackling the problem, it is important to note that the issue comes from both the individual, household and providers point of view.
5. This will enable them to make effective and innovative solutions. This can be in terms of consumer behavior and customer satisfaction of financial services. Acknowledging comments and data from all three sources will drive for higher levels of development.